1. Vermont's Health Care Landscape

Vermont's total population is 616,000, making it the 48th most populous state in the United States. Approximately 66,000 Vermonters are uninsured, and 32 percent are enrolled in public health insurance programs.

Vermont has six commercial health maintenance organizations offering coverage. The largest plans are Blue Cross Blue Shield of Vermont, CIGNA Healthcare, MVP Health Care, and the Vermont Health Plan. 84% of Medicaid beneficiaries receive their care through one of the health plans. A very small (less than 1%) of all Medicare beneficiaries are enrolled in a Medicare Advantage plan.

The provider landscape includes 17 hospitals, 14 rural community health centers, and 6 FQHCs. Vermont has 52 general practitioners per 100,000 people compared with 291 specialists per 100,000.[1]

Vermont has an innovative cost containment programs called the Global Commitment to Health, a Medicaid waiver for restructuring the State's Medicaid program. As reported by the Kaiser Foundation, "This waiver makes Vermont the only state in the nation with a fixed dollar limit on the amount of federal funding. In exchange for taking on the risk of operating under a capped funding arrangement it gives Vermont a new flexibility to use Medicaid funds more broadly and to maintain and improve its public health care coverage and provide more effective services and to reduce the number of uninsured."

Another innovative program is the Vermont Blueprint for Health Chronic Care – a public/private collaboration to address the growing health and cost burden of chronic disease. The Vermont Department of Health (VDH) and the Vermont Program for Quality in Health Care (VPQHC) are currently implementing pilot projects in three communities.. The Blueprint engages patients and their providers in a technology-assisted interactive manner to support healthy lifestyles and encourage preventive and effective care in the community setting. The Blueprint is a patient-centered initiative and relies on technology tools including centralized information systems, patient follow-up tools and evidence-based treatment guidelines.

[1] Information from Kaiser Family Foundation: Statehealthfacts.org and *Physician Characteristics and Distribution in the US 2006 Edition*, American Medical Association.

2. Vermont's State-Level HIE Efforts

Background

Healthcare reform dominated the 2005-2006 biennium of the Vermont General Assembly. Lawmakers passed comprehensive reform legislation which Governor Jim Douglas signed into law. These acts relating to health care affordability for Vermonters and additional action in 2007 provide the foundation for Vermont's health care reform initiatives that state government is working to implement.

As required by the reform legislation, the Douglas administration developed a five-year health care reform plan for Vermont. The plan was released in November 2006 and addresses a variety of goals to improve the quality of health care, contain costs, and make health care more accessible to Vermonters. Vermont Information Technology Leaders (VITL) was identified as playing a key role in supporting the reform efforts and has been designated as the exclusive statewide health information exchange for Vermont.[2]

VITL is a non-profit, public-private partnership formed by a broad base of health care providers, payers, employers, consumers, and state agencies. It has been charged by the General Assembly with the task of writing the Vermont Health Information Technology Plan (VHITP). VITL conducts health information technology pilot projects, and operates several long-term programs financed by the Vermont Health IT Fund and federal grants. The programs' primary objectives are to facilitate the adoption of electronic health records systems (EHRs), improve the quality and efficiency of patient care through clinical transformation in physician offices, control health care costs, and foster health information exchange (HIE) among health care provider organizations.

During the 2007 legislative session, the legislature expanded VITL's role including the following:

- Directing the VHITP to include plans for "self sustainable funding for the ongoing development, maintenance, and replacement of the health information technology system."
- Addressing the use of the VHITP in the certificate of need application for providers.
- Creating an interim technology fund for use in promoting the adoption of EHR systems by primary care providers serving low-income Vermonters.

Vermont submitted its letter of intent to apply for ARRA funding through the Cooperative Agreement Program. VITL has been recognized as the State Designated Entity for HIE operations. However, the State of Vermont, through the Division of Health Care Reform, will be the fiscal agent for funding through the Cooperative Agreement. In October 2009, Vermont State Agency for Human Services and the VITL submitted an application to the federal government requesting funds to accelerate the planning and implementation of health

[2] Vermont Agency of Administration, "Vermont Health Care Reform: Five-Year Implementation Plan," 1 Dec. 2006 Available online at http://www.adm.state.vt.us/pdf/hcr5-yearstrategicplan.pdf.

information exchange within Vermont. As part of this application, the State and VITL updated its strategic plan and intend to formally submit an operational plan in 2010.[3]

Governance Framework

In Vermont, the Secretary of Administration is responsible for coordination of Vermont's Health Care Reform among the executive branch agencies, departments, and offices in a manner that is timely, patient-centered, and seeks to improve the quality and affordability of health care. eHealth policy coordination is overseen through the Office of Health Care Reform Implementation in the Secretary of Administration's office.[4]

Technical implementation of the Vermont's statewide HIE and health IT adoption is led by the Vermont Information Technology Leaders, Inc. Since its incorporation in July 2005, VITL has been working to establish the technical infrastructure, legal agreements, services, and programs necessary to increase the number of Vermont practitioners using electronic health records systems and enable health information exchange between the state's health care providers.

VITL operates independently from the State of Vermont, though the State has designated VITL as the exclusive statewide health information exchange. The State currently has two representatives on the board. The VITL Board sets the policies and procedures that govern the exchange. All providers who exchange information through the exchange are required to comply with these policies. The state does not have veto authority over these policies since the entity operates independently from the State. However, in order for VITL to receive funds from the Health IT Fund, they must submit a plan for the use of these monies for approval by the State.

In the Spring of 2008, VITL undertook a review of its governance structure. At the time, VITL's Board of Directors consisted of 21 members. Since the organization was shifting from start-up to an operational mode, VITL and the State conducted a governance review to ensure that VITL's committees, advisory groups, and Board of Directors were optimally structured.

In August 2008, VITL adopted a new set of bylaws that reduced the size of the VITL board and defined the number of board members that can be drawn from various stakeholder groups. These bylaws set the total number of directors at not less than nine and not more than 11. Of those directors:

- At least two but not more than four must be either a health care provider, an employee of a health care provider, or employed by an association representing health care providers.
- At least one of those directors must be employed by a Vermont hospital or be an employee of the Vermont Association of Hospitals and Health Systems.
- One of the seats reserved for health care providers must be occupied by a practicing Vermont physician or an employee of the Vermont Medical Society. In case the seat is occupied by a Vermont Medical Society employee, an additional director shall be a

[3] Vermont's update Strategic Plan is available online at: http://hcr.vermont.gov/sites/hcr/files/IT_Strategic__Implementation_Plan__10-11-09__1.pdf.
[4] Source: Vermont website, http://hcr.vermont.gov/information_and_reports, accessed June 8, 2009.

practicing Vermont physician and the number of health care providers who may be directors is increased to a maximum of five.
- At least one director, but no more than two, must be employed by a health insurer.
- At least one director must be from the non-health private business sector.
- One director is appointed by the governor of Vermont.
- One director is appointed by the legislative leadership.
- One director is a representative of a consumer group.
- No more than three directors can be employees of the State of Vermont.

Standing committees under the new bylaws were the Executive Committee, the Finance Committee, and the Governance and Nominating Committee. In addition, a Practitioner Advisory Committee and a Consumer Advisory Committee were created. The Practitioners Advisory Committee is meeting monthly, while the Consumer Advisory Committee is expected to begin meeting in 2009.[5]

Privacy and Security Approach

VITL has a "consent to opt in" approach for sharing protected health information across the exchange. This has largely been driven by strict privacy laws in Vermont where under the patient privilege statute, the patient must approve of any information released from their provider.

In order to comply with this statute and develop privacy and security policies for the exchange, VITL launched a year-long public engagement process where affected stakeholders were consulted in the development of these policies. A draft set of policies were presented to the VITL Board in November 2008. After further review and comment, the Board approved the policies in April 2009.

Essentially, the privacy policy states that no protected health information of any individual shall be made available over the exchange unless the individual has specifically consented in writing to make this information available to treating providers. This information can only be used for the purposes of treatment, payment for treatment and health care operations. Under these policies, VITL only makes available on the exchange the information of individuals who have a current written consent for such availability on record. Before providing consent, the individual is provided educational information from VITL regarding the exchange and its use by providers for treatment purposes. The individual has access to his/her health information on the exchange and can revoke consent to share information by providing written notice to VITL.

VITL also has a rigorous set of security policies that require providers to affirm compliance with the HIPAA Security Rule and that recommends a risk assessment process based on HIPAA requirements that allows providers to demonstrate the application of specific safeguards most appropriate to their size and function. Compliance with these requirements are necessary for participation in the exchange.[6]

[5] For additional information, see VITL website at http://www.vitl.net.
[6] Sources: VITL website, http://www.vitl.net, accessed May 21, 2009, and phone conversation with Jeff Larose, VITL Vice President for External Relations

Technical Model

VITL's prime contractor is GE Healthcare, which operates a secure data center in South Burlington, Vermont. Under VITL's direction, GE Healthcare develops interfaces between its data center and physician practices with EHRs, as well as hospitals and other health care facilities. GE Healthcare hosts the components of the Vermont health information exchange in its data center, and provides project management services. VITL also contracts with HLN Consulting, LLC, for technical, planning and policy assistance.[7]

To meet the demand for electronic data, VITL has developed its EHR Connectivity Service. Data from hospitals and other sources is routed through the VITL data center to the EHR. Lab test results and other data are transmitted in real-time to the physician's EHR in-box. The physician reviews the incoming data and then decides whether to accept it into the patient's electronic medical record.

The Vermont Health Information Exchange uses a hybrid architecture, with some functions federated throughout the network and others centralized. For example, there is a central data repository for aggregating data from multiple sources participating in the Blueprint for Health initiative. Once the data is aggregated, it is transmitted to the DocSite registry, which providers then access to analyze the aggregated data. Access to other data remains federated, with each health care organization assigned its own local repository.

There is a master person index, which uses demographic feeds from each participating provider and algorithms to accurately match records located in the various repositories to a unique individual. Participating health care providers conduct a search for an individual in the MPI, and once the person is found, a list of available clinical documents for the individual is presented to the HIE user. The authorized user then clicks on a link to open the document, and if he or she wishes, can import that document into the organization's electronic medical record for the individual patient.

The Vermont Health Information Exchange became active in April 2007, with the first use being the delivery of electronic medication histories to ED physicians. The next use was electronic lab result delivery to physician EHR's, which commenced in the fall of 2008. By the end of 2008, the Vermont HIE was being used to aggregate data from the EHR's of physicians participating in the Blueprint for Health initiative (using the continuity of care document standard) and transmit that data to the DocSite registry.

The next phase of the HIE will be the implementation of bidirectional health information exchange between providers in a hospital service area, using the CCD. Once the initial implementation of bi-directional HIE has been accomplished, the service will be rolled out to providers across the state. Interface development is underway for the delivery of radiology reports from hospitals to physician practices, electronic ordering of both lab and imaging tests, and electronic reporting of immunizations to the Vermont Immunization Registry.

[7] Vermont Information Technology Leaders. "January 2009 Progress Report." January 2009. Available online at http://www.vitl.net/uploads/1233933889.pdf.

The HIE lab results delivery service is currently active in four of fourteen hospital service areas. Work is underway to activate it with the tertiary hospital provider in the state. Statewide deployment of this service will be complete by the end of 2010. The medication history service is active in three hospitals. Cost has been a barrier to expanding this service to the remainder of the state.

Data for the Blueprint for Health initiative is being gathered in three hospital service areas, with additional sites in progress. Increased funding from the Vermont Legislature during the 2009 session will help accelerate the rollout of this service.[8]

Financing

Beginning in January 2010, Vermont will receive $5.9 million from the State HIE Cooperative Agreement program to advance statewide HIE efforts over the course of three years. In addition, qualified hospitals and providers in Vermont will receive approximately $89 million in Medicare and Medicaid meaningful use incentives over the next 11 years.

Vermont has also created a fund to sustain its HIE and health IT efforts. In 2008, the General Assembly created the Health IT Fund to be a "source of funding for medical health care information technology programs and initiatives such as those outlined in the Vermont Health Information Technology Plan administered by VITL."

The revenue for the fund is 0.199 percent of all health care claims paid by Vermont insurers or a fee determined by BISHCA based on the insurer's market share. Each insurer in Vermont pays the quarterly assessment according to one of the following two fee options:

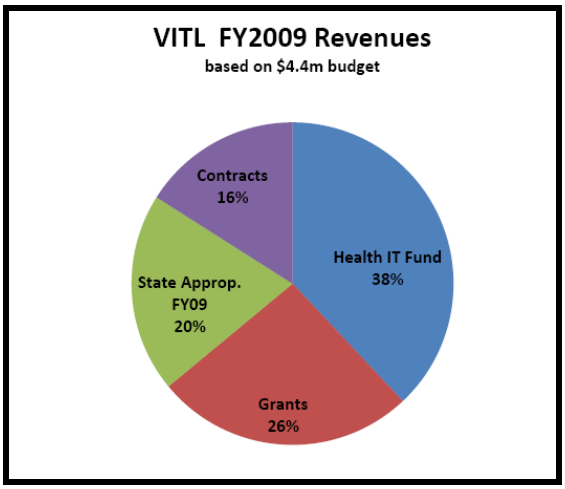
> *(1) 0.199 of one percent of all health care claims paid by the health insurer for its Vermont members in the previous fiscal quarter, or*
>
> *(2) an annual fee payable quarterly, to be calculated on or before August 1, 2008 and on or before August 1 of each succeeding year by the department of banking, insurance, securities, and health care administration, or by an agent retained by the department, in consultation with the secretary of administration, based on the proportion which the health insurer's total annual health care claims for the most recent four quarters of data available to the department bears to the total health care claims for all health insurers for the most recent four quarters of data available to the department, multiplied by the total fee revenue which would be raised if all health insurers chose the fee option established in subdivision (1) of this subsection.*[9]

[8] Vermont Health Information Technology Plan, October 2009. Available online at: http://hcr.vermont.gov/sites/hcr/files/IT_Strategic__Implementation_Plan__10-11-09__1.pdf.
[9] *8 VSA 4089k*

The Vermont Health IT Fund is administered by the Secretary of Administration. Vermont statute further stipulates that the fund be used for the development of programs and initiatives sponsored by VITL and state entities designed to promote and improve health care information technology, including the following:

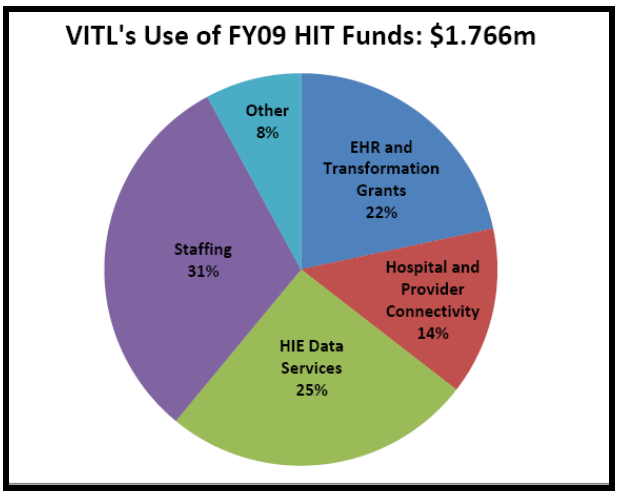
> *(1) a program to provide electronic health information systems and practice management systems for primary care practitioners in Vermont;*
>
> *(2) financial support for VITL to build and operate the health information exchange network;*
>
> *(3) implementation of the Blueprint for Health information technology initiatives and the advanced medical home project; and*
>
> *(4) consulting services for installation, integration, and clinical process re-engineering relating to the utilization of healthcare information technology such as electronic medical records.* [10]

In September 2008, VITL submitted an application to the Secretary of Administration for $2.84 million. During discussion of the proposed legislation in the General Assembly last year, the Joint Fiscal Office estimated the fund would generate revenues of $2.97 million for FY2009 and $32 million over 7 years. For a variety of reasons, the fund is now estimated to generate $1.7 million for FY2009. VITL has adjusted its work plan for FY2009 to reflect the reduced funding.[11] In order to draw down these funds, state law requires VITL to submit a yearly plan that details how the funds are to be spent in the upcoming fiscal year to the Secretary of the Administration and the Legislature. The chart below summarizes the expected revenues received by VITL in FY 2009. A significant portion of these revenues are now derived from the fund.[12]



[10] *32 VSA 10301*
[11] Vermont Information Technology Leaders. "January 2009 Progress Report". January 2009. Available online at http://www.vitl.net/uploads/1233933889.pdf.
[12] Ibid.

The chart below shows how VITL expects to use the funds generated by the Health IT Fund in FY 2009.[13]



3. Vermont's Regional Health Information Organizations (RHIOs)

VITL is the exclusive statewide health information exchange organization as designated by the State of Vermont.

Two other consortiums of providers have received grants to connect existing health IT systems and implement EHRs, Mt. Ascutney Hospital & Health Center and Southwestern Vermont Health Care.

[13] Ibid.